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A new whip spider species of the genus *Charinus* Simon, 1892 (Amblypygi: Charinidae) from French Guiana

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identification key;
ant nest;
French Guiana.

Abstract. – A new whip spider species of the genus *Charinus* Simon, 1892 is described based on one adult male collected in French Guiana. The new species, *Charinus lalylaurarum* **sp. n.**, exhibits a peculiar ecology as it was discovered within an ant nest (*Tetramorium* sp.) beneath a stone on the ground. To date, it is the only *Charinus* species recorded from a soil ant nest in French Guiana. The new taxon described here raises the number of known species for the genus *Charinus* in French Guiana to four, and the total number of currently recognized species for the genus to 108.

Ythier E. & Giupponi A. P. L., 2023. – A new whip spider species of the genus *Charinus* Simon, 1892 (Amblypygi: Charinidae) from French Guiana. *Faunitaxys*, 11(61): 1 – 5.

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Introduction

The genus *Charinus* was established by Simon (1892), having as type species, by original designation, *Phrynus australianus* L. Koch, 1867, described from the Samoan islands. It is the most diverse genus of whip spiders with 107 species described from tropical America, Africa and Oceania, occurring in a wide range of dark micro-habitats including forest litter, tree barks, bromeliads, caves, ant and termite nests (Weygoldt, 2000; Weygoldt, 2005; Teruel *et al*., 2009; Miranda & Giupponi, 2011; Jocqué & Giupponi, 2012 ; Réveillon & Maquart, 2015 ; Maquart & Réveillon, 2016 ; Miranda *et al*., 2021).
Recent discovery in French Guiana of an undescribed specimen of *Charinus* inside an ant nest (*Tetramorium* sp.) beneath a stone on the ground has led to the description of a new species, *Charinus lalylaurarum* **sp. n.** To date, it is the only *Charinus* species recorded from a soil ant nest in French Guiana. The new species exhibits similarities with some other *Charinus* species occurring in the Guianan region (Guayana floristic province as described in Mori, 1991) but can be easily distinguished by a combination of distinct morphological features. The new taxon described here raises the total number of currently recognized species for the genus *Charinus* to 108 and the number of known *Charinus* species occurring in French Guiana to four (WAC, 2023).

Methods

Illustrations and measurements were made with the aid of a Motic SMZ-1713 stereo-microscope with an ocular micrometer, together with a digital camera Tucsen HD Lite. Map was made using maps-for-free.com and Adobe Photoshop software. All external morphological designation terms follow Miranda *et al*. (2021). The terminology of the male gonopod follows Giupponi & Kury (2013) and Giupponi & Miranda (2016). The material studied herein was preserved in 70% ethanol and will be deposited in the Museu Nacional, Rio de Janeiro, Brazil (MNRJ, No. 9389).

Composition of the genus *Charinus* in French Guiana (in order of description)

- *Charinus bromeliaea* Jocque & Giupponi, 2012
- *Charinus sillami* Réveillion & Maquart, 2015
- *Charinus palikur* Miranda, Giupponi, Prendini & Scharff, 2021
- *Charinus lalylaurarum* **sp. n.**

Taxonomic treatment

Family **Charinidae** Quintero, 1986

Genus ***Charinus*** Simon, 1892

***Charinus lalylaurarum* sp. n.**

(Fig. 1-13, Tab. I)

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Holotype, ♂, French Guiana, Roura, Crique Marguerite, on senior author's property (4°38'17.1"N - 52°20'09.0"W), in a garden surrounded by rainforest, within an ant nest (*Tetramorium* sp.) beneath a stone on the ground, 16/VIII/2023 (L. Ythier, L. Ythier & E. Ythier). The type specimen will be deposited in the MNRJ, Rio de Janeiro, Brazil (No. MNRJ 9389).

Reviewer :
Adriano B. Kury (*Dept. Invertebrados, Lab. Aracnologia, Museu Nacional, Universidade Federal do Rio de Janeiro, Brazil*)
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Etymology. – The specific name refers to Laly and Laura Ythier, daughters of the senior author, for their contribution to the collection of the new species.

Diagnosis. – This species can be separated from other *Charinus* species in northern South America, and notably from the species occurring in the Guianan region (Guayana floristic province as described in Mori, 1991), by means of the following combination of characters: carapace reddish brown with reddish yellow marks radiating from the fovea; male pedipalps showing the elongation typical of secondary sexual dimorphism; tibia of leg I with 23 articles, tarsus I with 26 articles; first tarsal article of leg I as long as sum of lengths of subsequent three articles; leg IV basitibia with 3 pseudo-articles; pedipalp femur with 3 dorsal and 3 ventral spines and patella with 3 dorsal and 3 ventral spines; median eyes developed; male carapace large with width/length ratio 1.22; peculiar habitat (collected into an ant nest under a stone on the ground).

Description (based on male holotype; measurements in Table I).

Coloration. – General coloration reddish brown to yellowish brown. Prosoma: carapace reddish brown with reddish yellow marks radiating from the fovea. Opisthosoma: tergites yellowish brown; sternites greyish. Pedipalps reddish brown with spines reddish. Legs yellowish brown.

Carapace. – Six anterior setae; frontal process rounded. Small granules, densely scattered between ocular triads and among sulci; median eyes present; lateral eyes well developed; lateral ocular triad well separated from carapace margin.

Sternum. – Tritosternum projected anteriorly, long, surpassing the base of pedipalp coxae, with two apical and two median large setae, and two smaller at its base; tetrasternum convex with a pair of large setae in its apex and three smaller at its base; pentasternum convex, slightly smaller than tetrasternum, with two large setae in its apex and one smaller at its base.

Opisthosoma. – Oblong, with fine punctuation on tergites; sternites smooth.

Genitalia. – Genital operculum with six large setae posteromedially and some smaller ones near margin. Male gonopod with apex of fistula and base of lateral lobe sclerotized; PI of finger-like shape; LaM pronounced finger-like and with the distal portion suddenly acuminate; LoD reduced, typical of Charinidae, LoL1 long and curved, with a wider and sclerotized base, progressively reducing the width until LoL2; LoL2 short, of somewhat irregular oval shape.

Chelicerae. – Four internal teeth; the proximal one big, two median teeth of about half size of proximal one; distal tooth about 2/3 the size of proximal one, bifid, with distal cusp larger. Claw with 5 teeth.

Pedipalps. – Femur with three dorsal spines and three ventral spines; two prominent setiferous tubercles between dorsal spine III and proximal margin; a small spine between ventral spine III and proximal margin. Patella with three dorsal spines in primary series; a prominent setiferous tubercle distal to spine I, one-third length of spine I; a smaller setiferous tubercle proximal to spine III; three ventral spines. Tibia with ventral spine distally and seta between spine and distal margin. Tarsus with two dorsal spines, proximal spine one-third length of distal spine; cleaning organ with 35 setae in ventral row. Male pedipalps showing the elongation typical of secondary sexual dimorphism.

Legs. – Tibia of leg I with 23 articles; tarsus I with 26 articles; length of first tarsal article equal to sum of lengths of subsequent three articles. Leg IV basitibia with three pseudo-articles, without sclerotized, denticulate margin projecting from apex of articles; trichobothrium bt situated medially on last pseudo-article; distitibia trichobothrium bc situated closer to sbf than to bf, sc and sf series each with five trichobothria.

Comparisons. – *Charinus lalylaurarum* **sp. n.** can be easily distinguished from other *Charinus* species in northern South America, and notably from the species occurring in the

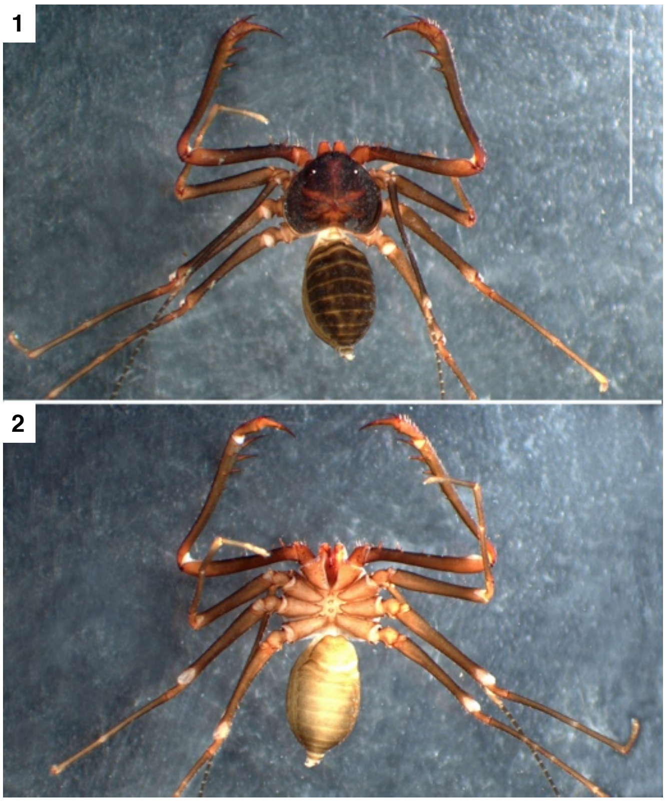

Fig. 1-2. *Charinus lalylaurarum* **sp. n.**, ♂ holotype, habitus. **1**. Dorsal aspect. **2**. Ventral aspect. (Scale bar = 5 mm).

Charinus lalylaurarum **sp. n. ♂ holotype**	
Total length	5.26
Carapace length	2.33
Carapace width	2.84
Opisthosoma length	2.93
Pedipalp - Femur length	3.58
Pedipalp - Patella length	4.37
Pedipalp - Tibia length	0.98
Pedipalp - Tarsus length	0.57
Pedipalp - Claw length	0.59
Leg I - Femur length	4.23
Leg IV - Femur length	3.02
Leg IV - Basitibia I length	1.40
Leg IV - Basitibia II length	0.42
Leg IV - Basitibia III length	0.65
Leg IV - Distitibia length	1.77
Leg IV - Basitarsus length	0.93
Leg IV - Other tarsal articles length	0.60

Table I. Morphometric values (mm).

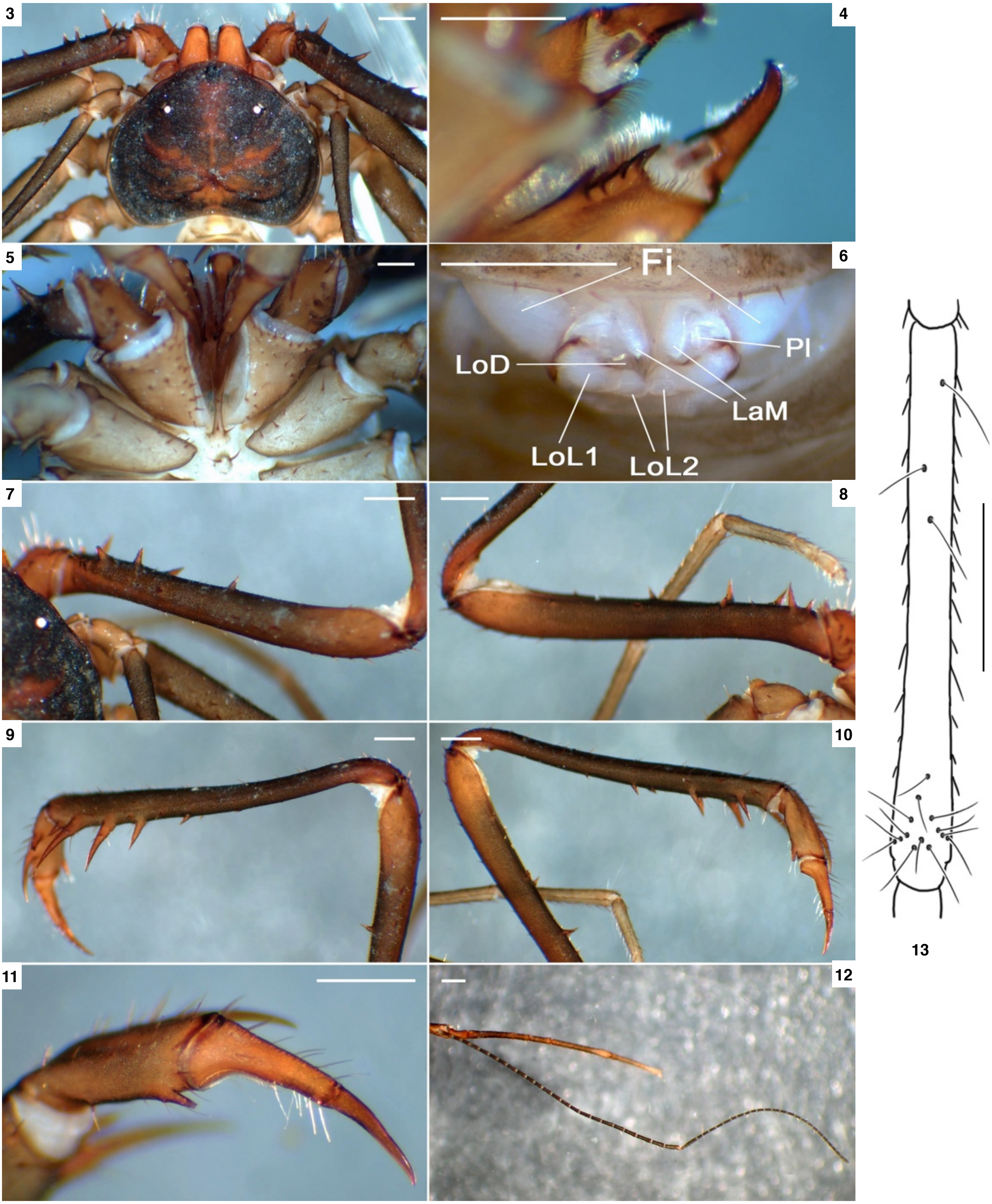

Fig. 3-13. *Charinus lalylaurarum* **sp. n.**, ♂ holotype (Scale bars = 0.5 mm).

3. Carapace, dorsal aspect. **4**. Chelicerae, ventral aspect. **5**. Anterior half of sternum and coxae of pedipalps and leg I-II, ventral aspect. **6**. Genital operculum, ventral aspect, showing the gonopod. **Fi** = fistula (gonopod tube), **LaM** = lamina medialis, **LoD** = lobus dorsalis, **LoL1** = lobus lateralis primus, **LoL2** = lobus lateralis secundus, **PI** = processus internus. **7-8**. Right pedipalp femur, dorsal (**7**) and ventral (**8**) aspects. **9-10**. Right pedipalp patella, dorsal (**9**) and ventral (**10**) aspects. **11**. Right pedipalp tarsus, ventral aspect. **12**. Right leg I (tibia and tarsus) and leg IV (basitibia, distitibia and tarsus), dorsal aspect. **13**. Trichobotrial pattern of distitibia IV, dorsal view.

Key to the identification of the species of *Charinus* in French Guiana

1.	Leg I tibia with 21 articles	***C. palikur*** Miranda, Giupponi, Prendini & Scharff
–	Leg I tibia with 23 articles	**2**
2.	Leg I tarsus with 37 articles	***C. sillami*** Réveillion & Maquart
–	Leg I tarsus with 25-28 articles	**3**
3.	Leg IV basitibia with two pseudo-articles	***C. bromeliaea*** Jocque & Giupponi
–	Leg IV basitibia with three pseudo-articles	***C. lalylaurarum* sp. n.**

Guianan region (Guayana floristic province as described in Mori, 1991), by the following combination of characters:

(**i**) tibia of leg I with 23 articles (21 in *C. palikur*);

(**ii**) tarsus of leg I with 26 articles (37 in *C. sillami*, *C. platnicki* (Quintero, 1986) and *C. quinteroi* Weygoldt, 2002, 41 in *C. gertschi* Goodnight & Goodnight, 1946);

(**iii**) basitibia of leg IV with 3 pseudo-articles (2 in *C. bromeliaea*, *C. platnicki* and *C. quinteroi*, 4 in *C. gertschi*);

(**iv**) pedipalp femur with 3 dorsal and 3 ventral spines (3 dorsal and 4 ventral in *C. platnicki*, 6 dorsal and 5 ventral in *C. gertschi*) and patella with 3 dorsal and 3 ventral spines (3 dorsal and 2 ventral in *C. bromeliaea* and *C. sillami*, 4 dorsal and 3-4 ventral in *C. palikur*, 5 dorsal and 5 ventral in *C. gertschi*);

(**v**) median eyes developed (reduced in *C. platnicki*, absent in *C. quinteroi*);

(**vi**) male carapace large with width/length ratio 1.22 (1.27 in *C. platnicki*, 1.32 in *C. sillami*, 1.35-1.39 in *C. palikur*, 1.39 in *C. gertschi*);

(**vii**) moreover, the new species exhibits a peculiar ecology as it was discovered within an ant nest (*Tetramorium* sp.) beneath a stone on the ground (*C. bromeliaea* was found in inselberg-adapted bromeliads, *C. platnicki* is known to inhabit bromeliads and the nests of leafcutter ants, *C. gertschi* is epigean and finally *C. sillami* was found within termite nests).

Distribution. – The new species is only known from French Guiana. The holotype was found in the locality called Crique-Marguerite, west of the Kaw mountain and north of the Regional Natural Reserve Trésor, on the commune of Roura in the east of French Guiana.

Ecology. – *C. lalylaurarum* **sp. n.** was collected in a garden surrounded by rainforest, within an ant nest (*Tetramorium* sp.) beneath a stone on the ground. To date, it is the only *Charinus* species recorded from a soil ant nest in French Guiana, although we cannot exclude that it might as well occur in other habitats. Upcoming further survey should provide more information about the ecology of the new species as well as a description of the female.

References

Giupponi A. P. L. & Kury A. B., 2013. – Two new species of *Heterophrynus* Pocock, 1894 from Colombia with distribution notes and a new synonymy (Arachnida: Amblypygi: Phrynidae). *Zootaxa*, 3647: 329-342. https://doi.org/10.11646/zootaxa.3647.2.5

Giupponi A. P. L. & Miranda G. S., 2016. – Eight new species of *Charinus* Simon, 1892 (Arachnida: Amblypygi: Charinidae) endemic for the Brazilian Amazon, with notes on their conservational status. PLoS One, 11: e0148277. https://doi.org/10.1371/journal.pone

Jocqué M. & Giupponi A. P. L., 2012. – *Charinus bromeliaea* sp. n. (Amblypygi: Charinidae); a new species of bromeliad inhabiting whip spider from French Guyana. *Zootaxa*, 3158(2): 53-59. https://doi.org/10.11646/zootaxa.3158.1.4

Maquart P. O. & Réveillion F., 2016. – Les amblypyges de Guyane-Française (Arachnida: Amblypygi). *Revista Ibérica de Aracnología*, 29: 27-33.

Miranda G. S. & Giupponi A. P. L., 2011. – A new synanthropic species of *Charinus* Simon, 1892 from Brazilian Amazonia and notes on the genus (Arachnida: Amblypygi: Charinidae). *Zootaxa*, 2980: 61-68. https://doi.org/10.11646/zootaxa.2980.1.5

Miranda G., Giupponi A. P. L., Prendini L. & Scharff N., 2021. – Systematic revision of the pantropical whip spider family Charinidae Quintero, 1986 (Arachnida, Amblypygi). *European Journal of Taxonomy*, 772: 1-409. https://doi.org/10.5852/ejt.2021.772.1505

Mori S. A., 991. – The Guayana lowland floristic province. *Comptes Rendu de la Société de Biogéographie*, 67: 67-75.

Réveillion F. & Maquart P. O., 2015. – A new species of *Charinus* Simon, 1892 (Amblypygi, Charinidae) from termite nests in French Guiana. *Zootaxa*, 4032: 190-196. https://doi.org/10.11646/zootaxa.4032.2.3

Teruel R., Armas L. F. & Rodríguez T. M., 2009. – Nuevos datos sobre la distribución geográfica y ecología de los amblipígidos de Cuba (Arachnida: Ambypygi). *Boltín de la Sociedad Entomológica Aragonesa*, 44: 201-211.

Simon E., 1892. – Arachnides. *In*: Raffray A., Bolivar I. & Simon E. (eds): Etude sur les Arthropodes cavernicoles de l'île de Luzon, Voyage de M. E. Simon aux îles Philippines (mars et avril 1890). 4è mémoire. *Annales de la Société entomologique de France*, 61: 35-52.

Weygoldt P., 2000. – Whip spiders (Chelicerata: Amblypygi). Their Biology, Morphology and Systematics. Apollo Books, Stenstrup. 163 pp.

Weygoldt P., 2005. – Biogeography, systematic position, and reproduction of *Charinus ioanniticus* (Kritscher, 1959) with the description of a new species from Pakistan (Chelicerata, Amblypygi, Charinidae). *Senckenbergiana Biologica*, 85: 1-14.

WAC (World Arachnida Catalogue), 2023. – World Amblypygi Catalog. Natural History Museum Bern, online at https://wac.nmbe.ch/order/amblypygi/1, accessed on 09 September 2023.

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Publisher Correspondence. – EY
Writing the article. – EY & AG
Description. – EY & AG
Article proofreading. – EY
Bibliographic work. – EY & AG
Material study. – EY
Author of the figures. – EY

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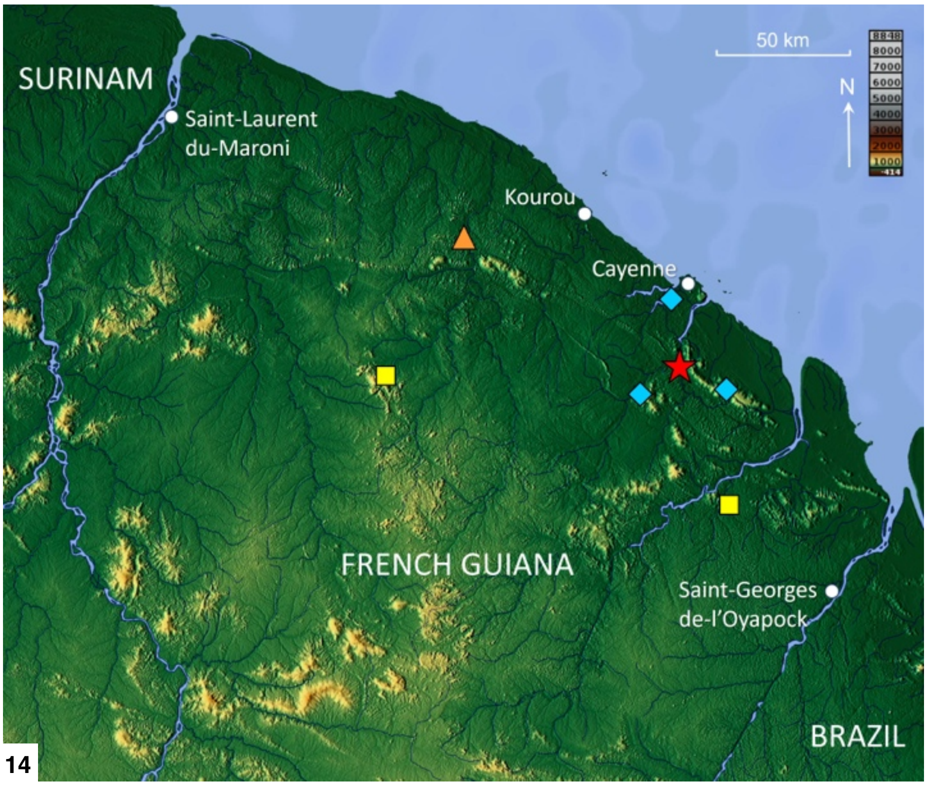

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Fig. **14**. Topographic map of northern French Guiana showing the known distribution of the four *Charinus* species recognized to occur in the department:

🟨 *C. bromeliaea* Jocque & Giupponi, 2012

△ *C. sillami* Réveillion & Maquart, 2015

◇ *C. palikur* Miranda, Giupponi, Prendini & Scharff, 2021

★ *C. lalylaurarum* **sp**. **n**.

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Fig. **15**. Habitat of *Charinus lalylaurarum* **sp**. **n**. in Crique Marguerite, French Guiana.

Résumé

Ythier E. & Giupponi A. P. L., 2023. – Une nouvelle espèce d'amplypyge du genre *Charinus* Simon, 1892 (Amblypygi: Charinidae) en Guyane Française. *Faunitaxys*, 11(61): 1 – 5.

Une nouvelle espèce d'amblypyge du genre *Charinus* Simon, 1892 est décrite sur la base d'un mâle adulte collecté en Guyane Française. La nouvelle espèce, *Charinus lalylaurarum* **sp. n.**, présente une écologie particulière puisqu'elle a été trouvée au sein d'un nid de fourmis (*Tetramorium* sp.) sous une pierre au sol. C'est à ce stade la seule espèce du genre *Charinus* signalée d'un nid de fourmis au sol en Guyane Française. Ce nouveau taxon porte à quatre le nombre d'espèces connues du genre *Charinus* en Guyane Française et à 108 le nombre total d'espèces actuellement reconnues pour ce genre.

Mots-clés. – Charinidae, *Charinus*, Amblypyge, systematique, taxonomie, morphologie, nouvelle espèce, description, clé d'identification, nid de fourmis, Guyane Française.

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Illustration de la couverture :

The Marguerite creek (crique Marguerite), flowing near the type locality of *Charinus lalylaurarum* **sp**. **n**.

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